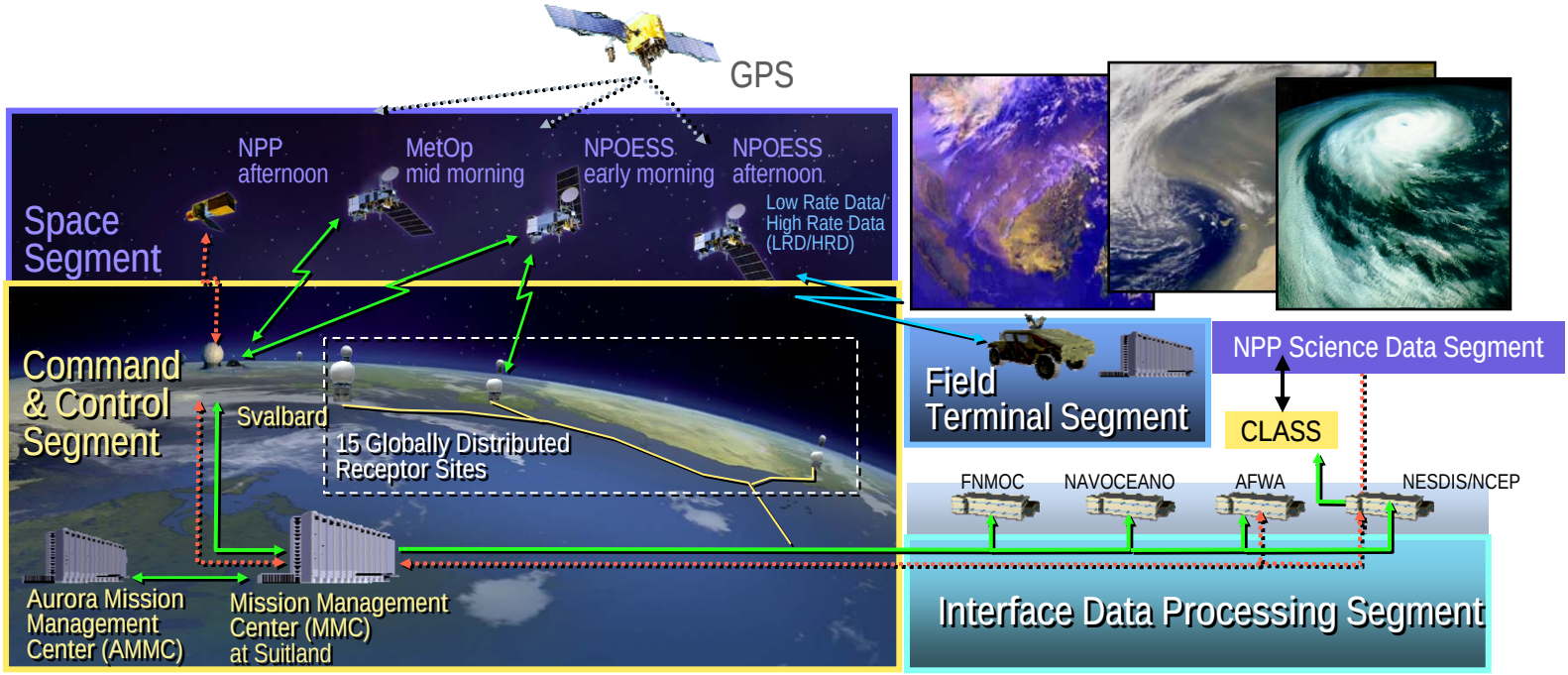
NPOESS Top Level Architecture

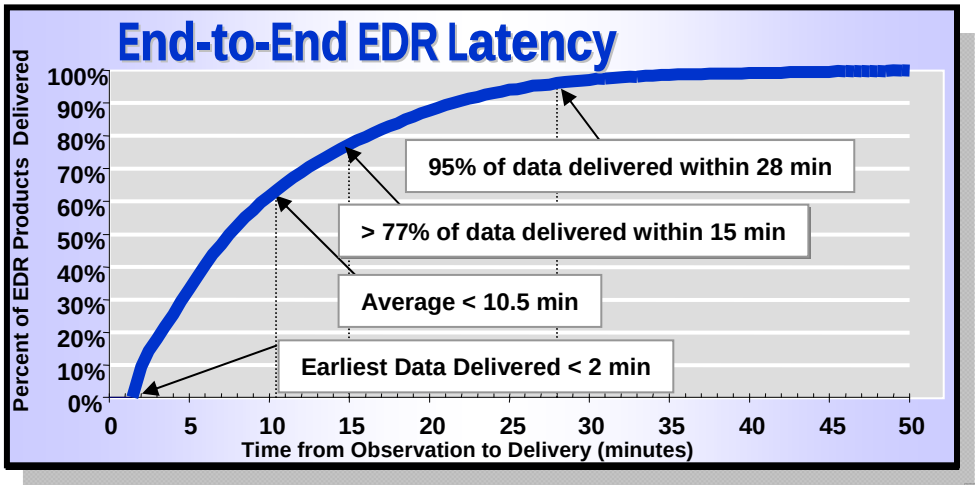
www.npoess.noaa.gov



Class — NOAA Comprehensive Large Array Data Stewardship System

NPOESS Data & Control Flow

NPP Data & Control Flow



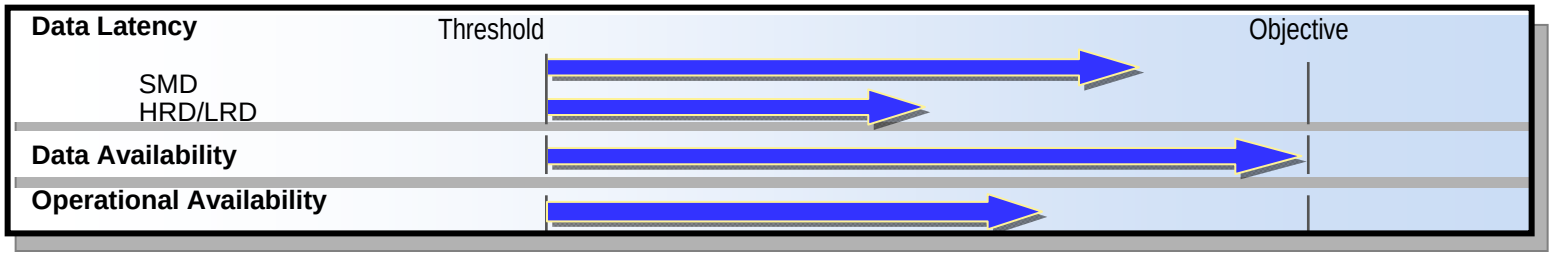
The NPOESS Interface Data Processing Segment (IDPS) design achieves high Environmental Data Record (EDR) processing rates by exploiting inherent opportunities for parallel processing in NPOESS data streams and accommodating loading peaks created by the dynamic nature of the NPOESS data stream.

Latency

NPOESS System Latency is the sum latency of the Space; Command, Control, and Communication (C3); and Interface Data Processing (IDPS) Segments. IORD requirements specify a 90-minute threshold and a 15-minute objective for processing Environmental Data Records (EDRs). The NPOESS System provides near-objective EDR latency performance. The System delivers 95% of EDRs in less than 28 minutes across the full NPOESS operating environment.

Key system design factors

The NPOESS SafetyNet™ architecture provides 1) frequent downlinks and maximizes contact duration (>100% margin) at low cost, 2) downlink bandwidth margin that allows all Stored Mission Data to be down linked twice to different receptors and 3) minimal latency impacts from loss of multiple ground receptors.



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